

as described by Edwards & Elliot, that I will not re-describe them. When young the larvae each rest on a little web on the under side of a leaf, the head held out quite flat. The mature larva is thickest at joint 9, and tapers slightly to the extremities. Beside the yellow subdorsal band mentioned by the describers there is a fainter white substigmatal one on joints 2-4.

The widths of head for the five stages, calculated and actually found, are as follows:—

Calculated.—0.48, 0.74, 1.14, 1.75, 2.7 mm. Ratio, 0.65.

Found.—0.7, 1.2, 1.7, 2.7 mm.

The cocoon is formed of few threads, at the ground. The pupa is very dark brown, almost black; flattened on the ventral side, the dorsum evenly rounded; finely punctured. The abdominal segments are closely appressed, motionless; cremaster none, anal segments evenly rounded. Length 10 mm., width 4.5 mm.

There are two broods each year, and the winter is passed in the pupal stage.

#### EDEMA ALBICOSTA *Hübner*.†

Hübner, Noct. 440.

Herr-Sch., Syst. bearb. sch. Eur. fig. 131.

1871. Staudinger, Cat. Lep. Europ. (Note.)

This larva has not such an abnormal development as I have supposed. I have recalculated the series for the widths of head, and find the following much better than the one I gave in *Psyche*, v. 5, p. 421, viz.:—

Calculated.—0.61, 0.85, 1.19, 1.66, 2.30, 3.2. Ratio, .72.

Found.—0.4, 0.7, 1.3, 1.7, 2.3, 3.2 mm.

This fits the observed facts except in regard to the first two stages, and I may have measured them too small. All the measurements were taken from living larvae, and hence are liable to some discrepancy.

The species has six larval stages, which is abnormal among the Ptilodontes if we except *Ichthyura inclusa*,‡ which seems to have also six stages, and the species of *Apatelodes* and *Nadata*, which probably have even more.

#### THE NEW CATALOGUE OF EUROPEAN COLEOPTERA.\*

This is in every way the most elaborate and important edition (No. iv) of the Catalogue of the European Coleoptera yet published. It is on a somewhat new plan. The family arrangement is that usually followed in Europe. The sequence of the genera and species is that adopted by some monogra-

pher of the family, or genus, usually the latest, reference to whose work is made under the title. The name of the species, with the principal synonyms, and the authorities for their creation, with other useful bibliographical references follow, as well as indications of geographical distribution within the faunal limits laid down. In the preface it is stated that the work was parcelled out to Mr. L. Ganglbauer, Dr. L. v. Heyden, Dr.

\* Catalogus Coleopterorum Europae, Caucasi et Armeniae Rossicae. Edited by Edmund Reitter. Berlin, Mödling, Caen. 1891.

† I have erroneously referred to this species in *Psyche*, v. 5, p. 421, as *E. albifrons* S. & A. All the specimens which have occurred to me at Rhinebeck, N. Y., have been *E. albicosta*, as I have recently discovered. The species may readily be separated by the character of the projecting tooth of the white costal

band, which in *albifrons* is regularly rounded, but in *albicosta* is sharply pointed or dentate. I strongly suspect that the larvae described by Mr. Beutenmüller in Ent. Amer. vol. 6, p. 75, and by Dr. Packard in Proc. Bost. soc. nat. hist. vol. 24, p. 525, as *E. albifrons*, are really those of *E. albicosta*.

‡ Prof. French finds six stages for *I. palla* (= *inclusa*) in Can. ent., v. 17, p. 42, and I have measurements which, as far as they go, corroborate him.

Ed. Eppelsheim, Mr. Edmund Reitter, and Mr. J. Weise, each of whom is responsible only for his own part, which is designated.

In comparing it with the third edition of 1883, a vast number of changes in specific names is notable, and many long familiar ones have been relegated to synonymy. Antiquity seems to have been extensively ransacked, and many entombed names have been stripped of their cerements and brought to the light. How science is to be benefited by all this is not evident, but if it has to be done, the quicker the better. Had the code of nomenclature adopted by the British association in 1842 and again in 1865, and by the Association of American geologists and naturalists in 1845, making the XII edition of the *Systema naturae* (1766) of Linnaeus the limit of time from beyond which no name could be advanced, and according to which the specific names in both the European and American catalogues were first recorded, much of this confusion could have been avoided. But this being set aside, every one is free to do as he pleases, and frequently the brief and imperfect descriptions of the ante-Linnaean are made to apply in an imaginary way to insects common and long known by other names, which are at once dropped, and the semi-imaginary ones substituted, to the intense disgust of many who fail to perceive how science is to be benefited. It is not beyond hope that in time a limit in this direction may be reached. A fire goes out when the fuel is all consumed.

This catalogue is of some interest to American coleopterists, as it advances many new names for species common to the two hemispheres, as for example: Our abundant *Philonthus aeneus* must hereafter be called *politus* Linn., and our *politus fuscipennis* Mann.; *Orphilus glabratus*, a world-wide name, must be replaced by *niger* Rossi; *Nitidula bipustulata*, by *bipunctata* Linn.; *Xestobium rufo-villosum* DeG., is to supersede *tessellatum*; and the imported elm-leaf beetle, *Galeruca xanthomelaena* becomes

*luteola* Mull, etc. Justice has been done Mr. Say in placing his *Phylethus bifasciatus* in the catalogue, but injustice in advancing *Bru-chus irresectus* Fahr. over his *obsoletus*.

It evidently requires immense labor, research, much entomological knowledge, and calm, unbiased judgment to produce a satisfactory work of this kind, and it can scarcely be doubted the authors have fairly succeeded.

JOHN HAMILTON.

#### TEMPERATURE EXPERIMENTS WITH MOTHS.

The Transactions of the Entomological society of London for 1891, Part i, give some recent experiments made by Mr. F. Merrifield on two double-brooded species of *Selenia*. We extract the following general conclusions.

1. That both the marking and the coloring of the perfect insect may be materially affected by the temperature to which the pupa is exposed.
2. That the *markings* are chiefly affected by long-continued exposure, probably previous to the time when the insect has begun to go through the changes between the central inactive stage and emergence.
3. That the *coloring* is chiefly affected during the penultimate pupal stage, i. e., before the coloring of the imago begins to show.
4. That a low temperature during this penultimate state causes darkness, a high temperature during the same period having the opposite effect.
5. That, in the species operated on, a difference between 80° and 75° is sufficient to produce the extreme variation in darkness caused by temperature, a further lowering of the temperature having no further effect on it. . . .
6. That in these species dryness or moisture during the pupal period, whether during a low temperature or a high one, has little or no effect on the coloring of the imago. . . .